



56 METAL CONGRESS TECHNICAL PAPERS ARE WELL RECEIVED

Campbell Lecture and Special Sessions Highly Popular; 4149 Registration Good

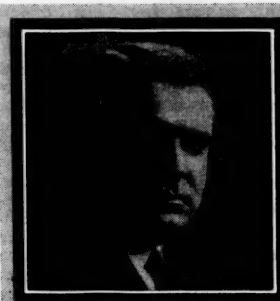
In nine technical sessions sponsored by the A.S.S.T., 56 papers of the highest technical quality were presented as part of the National Metal Congress in Boston, September 21 to 25. This unusually large program, 44% larger than in 1930, covered a wide range of subjects to the profit of those who attended the sessions.

Registered attendance at the National Metal Congress was 4149, a figure somewhat low as compared with past history but nevertheless gratifying in the light of present business conditions. Session attendance was on an average somewhat smaller than usual, although the Campbell lecture and several other sessions attracted crowds of 500.

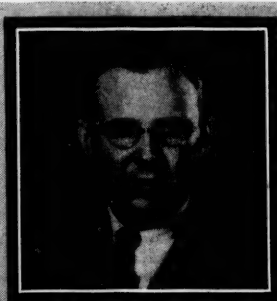
Great interest was shown in the sheet steel session and the meetings devoted to problems of melting and stainless alloys. The Campbell lecture, delivered on Wednesday morning, September 23, by Dr. C. H. Herty, Jr. of the U. S. Bureau of Mines Experiment Station in Pittsburgh, was also well received. An extended abstract of his lecture appeared in the October issue of *Metal Progress* and will be reprinted in full in a later issue of *Transactions*.

A.S.S.T. sessions were held in the grand ballroom of the Hotel Statler. An excellent public address system aided in the efficient presentation of the papers.

Nominated to Hold Offices in 1932



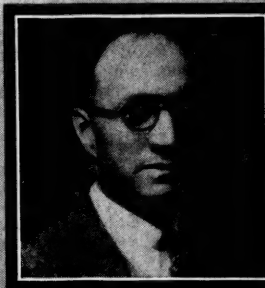
W.B. COLEMAN



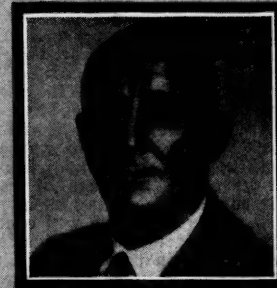
A.T. CLARAGE



A.H. D'ARCAMBAL



H.D. MCKINNEY



C.F. PASCOE

Thirty-two members of the nominating committee of the A.S.S.T. met during the National Metal Congress in Boston last month to nominate officers and directors of the Society for the year 1932.

Alexander H. d'Arcambal, consulting metallurgist and sales manager of the Pratt & Whitney Co., Hartford, Conn., was nominated for president. Mr. d'Arcambal became a member of the board of directors on January 1, 1930. He was elected vice-president and served in that position during 1931. He has also served as chairman of the Hartford chapter and has acted as a member of the A.S.S.T. Publication Committee.

William B. Coleman, president of W. B. Coleman & Co., of Philadelphia, was nominated for vice-president. Mr. Coleman has long been active in the affairs of the national organization, having been a director since January 1, 1930, and having served as chairman of the Publication Committee of the Society.

Arthur T. Clarage, president of the Columbia Tool Steel Co., Chicago Heights, Ill., was nominated treasurer. For two years Mr. Clarage has been a member of the Finance Committee of the A.S.S.T. and he has long been active in the executive affairs of the Chicago chapter.

New nominees for the directorate are Harry D. McKinney, vice-president of the Driver-Harris Co., Harrison, N. J., and C. F. Pascoe, superintendent of Canadian Steel Foundries, Ltd., Montreal, P. Q. Mr. McKinney was one of the founders of the New Jersey chapter and has served as chairman of that chapter. He had previously assisted in the organization of the Hartford chapter. At other times he has belonged to the Chicago and New York chapters because of changes in residence. Mr. Pascoe helped organize the Montreal chapter and was vice-chairman in its first year. He later served as chairman for the year 1926-27.

W. H. Eisenman was nominated as secretary to succeed himself.

In addition to these men, the board of directors will include J. M. Watson, president of the A.S.S.T. during 1930; B. F. Shepherd, metallurgist of the Ingersoll-Rand Co., Phillipsburg, N. J.; and F. B. Drake of the Johnson Gear Co., Berkeley, Calif.

GROSSMANN JOINS ILLINOIS STEEL

Dr. Marcus A. Grossmann, formerly vice-president of the Republic Research Corp., a subsidiary of the Republic Steel Corp., Massillon, Ohio, has become affiliated with the Illinois Steel Co.

PRESIDENT'S REPORT TO A.S.S.T. MEMBERS

Presented At Annual Meeting in Boston, Sept. 23, 1931

You have heard the reports of our Secretary and Treasurer, presenting the detailed statistical and financial history for the past year. This has been a year of general business depression but we again find our Society in a healthy condition both as regards general society activities and finances. I feel happy that we have had such efficient men as Mr. Eisenman and Mr. Fulton in their respective offices. They have worked hard and deserve the thanks of the membership at large.

I want briefly to mention some of the outstanding events since the last annual meeting.

Henry Marion Howe Medal

The medal was established by the Board of Directors in 1922, to honor the memory of Prof. Henry Marion Howe, one of our beloved honorary members. This is awarded annually to the author of the paper published in the *Transactions* during each year, that is considered to be of the highest order of merit. The committee of final award is appointed by the President and reports only to him, no one else being advised of the personnel. The eighth impression of the medal was presented by President Guthrie to Mr. Herbert J. French for his paper entitled, "A Study of the Quenching of Steel."

E. DeM. Campbell Memorial Lecture

This lecture was established in 1925 by the Board of Directors honoring the memory of Prof. Edward De Mille Campbell of the University of Michigan. The speaker in Chicago last year was Dr. Marcus A. Grossmann, a member of the Society and Vice President of the Republic Research Corporation. The title of the paper was "Oxygen in Steel."

The 1931 Lecture will be presented this morning immediately at the close of the Annual Meeting.

The President's Medal was presented to Dr. Zay Jeffries in recognition of the very valuable work he has done for the American Society for Steel Treating and I would feel remiss in my duty if I did not acknowledge my own personal

(Continued on Page Two)

E. C. BAIN, K. HEINDLHOFFER GET HOWE MEDAL AT BANQUET

The paper "A Study of the Grain Structure of Martensite" written jointly by Drs. Edgar C. Bain and K. Heindlhofer was awarded the Henry Marion Howe Memorial Medal as the outstanding paper which appeared in *Transactions* during the past year. Announcement of the award was made at the banquet of the A.S.S.T. on September 24 in Boston, and the authors were given a medal and scroll in recognition of their achievement.

Dr. Bain is a member of the directors' staff of the United States Steel Corp. research laboratory at Kearny, N. J. He is a graduate of Ohio State University and has been associated with the U. S. Bureau of Standards, the B. F. Goodrich Co., General Electric Co., the Atlas Steel Corp., and the Union Carbide and Carbon research laboratory.

Dr. Heindlhofer received his early education in Zurich at the Federal Polytechnic Institute. He received the degrees of M. S. and Ph. D. in this country from Carnegie Institute of Technology and from the University of Pennsylvania respectively. He has been associated with several organizations and is now physicist in the research laboratory of the Steel Corporation.

PITTSBURGH ENJOYS B. F. SHEPHERD TALK

Speaker Discusses Timbre at Meeting on Sept. 10

By N. A. Ziegler

After a well attended dinner, the Sept. 10 meeting of Pittsburgh chapter was called to order by the chairman, E. H. Dix, Jr. Speaker of the evening was B. F. Shepherd of Ingersoll-Rand Co., whose subject was "Personality in Tool Steels."

Mr. Shepherd said that physical properties of tool steels are functions not of chemical analysis alone, but also of some other factors, which at present are not yet well investigated. Every tool steel in addition to its chemical analysis has a personality which influences the degree of hardness penetration and width of allowable quenching range.

Hardness inspection is not a guarantee of satisfactory service, because it does not indicate the uniformity and depth of hardness. Etching test may discover soft spots in steel which passed hardness inspection, while depth of hardened surface is often a function of the internal stresses which influence the formation of martensite.

A test for determining hardening characteristics in steels was designed. It consists of quenching discs of steel, which have been step-ground in 1/8 in. steps in a special brine spray. After that, quenched discs are broken to study the fracture, or cut and etched. "For any temperature, the hardenability number is taken as the numerator of the fractional thickness in thirty-seconds of an inch of the thinnest section to have a soft core after this operation," Mr. Shepherd said.

Study of fractures, microstructures and results of the McQuaid-Ehn test show that normality and abnormality sometimes do not have any definite relation to hardening quality.

Steels of equal timbre characteristics sometimes show very different types of border lines between case and core, i.e., in one steel it may be quite sharp, while in another the passage from case to core is gradual. The effect of this border-line characteristic upon service life is under investigation.

Timbre exists not only in tool steel, but also in a large variety of alloy steels. Heat treating practice has a great effect on timbre, and sometimes "personality" can be traced back even to steel making.

GRIFFITHS HEADS TIMKEN STEEL

F. J. Griffiths, formerly president of the Republic Research Corp., has been elected director and president of the Timken Steel and Tube Co. M. T. Lothrop, president of the Timken Roller Bearing Co., has been made chairman of the board of the Timken Steel and Tube Co.

COLORFUL BOOTHS MAKE BOSTON SHOW EXTRA ATTRACTIVE

Exposition Attendance 51,262; Business Reported Good By Most Exhibitors

The keynote of the thirteenth National Metal Exposition, which closed in Boston September 25, was a concerted effort on the part of exhibitors to attract public attention to their products by means of interesting and eye-appealing displays. The exhibits covered nearly 100,000 square feet of space on the Commonwealth Pier, representing an exposition nearly 50% larger than the one held at Chicago in 1930.

Attendance at the Exposition was 51,262, although the size of the Pier permitted such a wide distribution of crowds that there was seldom any great congestion in the aisles or in the entrances.

A particular effort was made on the part of the exhibitors to attract the public eye by means of booth decorations and carefully planned layout of space. The result was the most colorful exposition in history. Reaction to this effort was very enthusiastic.

Exhibitors generally reported that the week was successful in a business way. Orders actually written in many cases exceeded expectations, while those organizations which had no product or service actually for sale from the exposition floor made genuinely valuable contacts.

The attendance figures represent to large degree a group of keenly interested members of the metal industry of New England and, in general, the eastern half of the United States.

PHILADELPHIA MEN HAVE PICNIC FUN

Dr. H. C. Boynton Announced as Chairman for 1931-1932 Year

By Adolph O. Schaefer

The members of the Philadelphia chapter took an afternoon off on June 12, and gathered at the Philadelphia Rifle Club for their Annual Meeting.

Words fail to describe the base ball game held during the afternoon. The Program Committee had provided nine dresses for the members of one ball team to be known as the "Ladies." This team was then challenged by the kids already occupying the field, who looked like Skipppy's gang. The challenge was accepted and the ball game began. On the one side were nine of the chapter's pride, arrayed in charming house dresses of the latest cut. On the other, twenty or more neo-ball players, average age six, average size infinitesimal. The Philadelphia chapter must admit its opponents were hard to beat, if they were beaten.

And then there were eats. The noise of the soup was drowned by music from a well-known quartet. The enjoyment of the cigars was enhanced by the possibility of looking through the smoke at a peerless exhibit of terpsichorean art and feminine beauty.

From these heights, the gathering toppled into a business meeting. Order was restored as the chapter listened for the last time to Gus Peterson as chairman—to his thanks for the chapter's cooperation. The secretary-treasurer's report showed more than a satisfactory balance.

Then came a breathless moment as the tellers reported the results of the chapter elections. Here they are—for chairman, Dr. Henry C. Boynton; for vice chairman, Norman L. Mochel; for directors, Francis B. Foley, Stuart B. Mathews.

SECRETARY'S REPORT

Because of lack of space, the report of the Secretary made at the annual meeting of the A.S.S.T. will not be published in full until the next issue of *THE REVIEW*.

MINUTES OF SEPT. DIRECTORS' MEETING

MEETING OF THE BOARD OF DIRECTORS

Tuesday, September 22, 1931

Present:

J. M. Watson
A. H. d'Arcambal
A. O. Fulton
W. H. Eisenman
R. G. Guthrie
W. B. Coleman
O. E. Harder
F. B. Drake
B. F. Shepherd

Present by invitation:

A. T. Clarage, nominee for treasurer
C. F. Pascoe, nominee for director

The meeting was called to order by President Watson, and upon motion properly made, seconded, and unanimously carried the minutes of the previous meeting were approved as read.

Treasurer Fulton then presented the subject of the establishment of a trust agreement between the Cleveland Trust Co. at Cleveland, Ohio, and the A.S.S.T. whereby the proper supervision of the funds of the Society would have the joint advice not only of the board of directors but also of this large financial institution.

Upon motion by Mr. Fulton, seconded by Mr. d'Arcambal, and unanimously carried, it was decided that the officers of the A.S.S.T. were to be authorized to enter this agency agreement with the Cleveland Trust Co., as follows:

(Printed elsewhere in this issue.)

Treasurer Fulton then presented financial statement for the first 8 months of the present fiscal year.

Upon motion properly made, seconded, and carried, the treasurer's report was accepted as presented.

Upon motion by Mr. Guthrie, seconded by Mr. Fulton, and unanimously carried, the Henry Marion Howe Medal was awarded to Edgar C. Bain and Kalman Heindlhofer for their paper, "A Study of the Grain Structure of Martensite." This was considered by the Committee of Final Award to be the best paper published in *Transactions* during 1930.

Upon motion by Mr. d'Arcambal, seconded by Mr. Guthrie, and unanimously carried, it was decided that in the future the Howe Medal should be

(Continued on Page Three)

THE REVIEW

Devoted to the interests of the American Society for Steel Treating

A Review of the Activities of the Chapters and National Organization of the A. S. S. T.

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AMERICAN SOCIETY FOR STEEL TREATING
7016 Euclid Ave., Cleveland, O.

J. M. WATSON, President
A. ORAM FULTON, Treasurer
R. G. GUTHRIE, Director
B. F. SHEPHERD, Director



A. H. D'ARCAMBAL, Vice-President
W. H. EISENMAN, Secretary
F. B. DRAKE, Director
O. E. HARDER, Director

W. B. COLEMAN, Director

Subscription \$6.00 a year; 5 cents a copy

RAY T. BAYLESS Editor
JOHN G. MAPES Managing Editor

Volume III Cleveland, O., October, 1931 No. 2

TREASURER'S REPORT TO A.S.S.T. MEMBERS

An unaudited profit and loss statement of the American Society for Steel Treating from January 1 to August 31 inclusive, 1931, and the balance sheet as of August 31, 1931, show continued satisfactory financial progress.

The profit and loss statement shows the following figures:

Income for the first 8 months of 1931 \$150,781.63
Expense for the same period 145,979.68

Leaving excess income over expense of \$ 4,801.95

These figures do not include the advance receipts or prepaid expense in connection with the 1931 Convention, but do include \$1,582.08 excess income realized on the 1931 Western Metal & Machinery Exposition held in San Francisco this last February.

The net excess income over expense for the first 8 months of 1930 was \$8,379.43. Approximately 90% of our membership dues were received in the first four or five months of the year, and receipts from this source will be light during the balance of the year. However, it is expected that the Society will still show a balance on the right side of the ledger on December 31st.

The balance sheet shows the following:
Cash on hand and in Commercial Accounts \$ 11,631.70
Cash in Savings Banks 23,011.55
Investments 129,947.54
Accts. Receivable less Allowance for Bad Debts 15,412.72
Inventory 12,288.41
Travel Advances 6,638.18
Prepaid Insurance 423.27
Office Furniture & Fixtures 5,035.60
Prepaid Expense 1931 Convention 17,309.53

Total Assets \$221,698.50
A claim against these assets exists in the amount to be refunded to the chapters for dues received in August ... \$ 189.94

There is also included in the above cash accounts the advance receipts for the present convention \$28,990.00 \$ 29,179.94

Inasmuch as the services for the advance receipts have not yet been completed and the majority of the convention charges still have to be paid, a deduction of the amount should be made to obtain the Society's PRESENT NET WORTH \$192,518.56

The following table shows the Total Assets of the Society at the end of each year:

December 31, 1921..	\$ 16,520.90
December 31, 1922..	31,391.31
December 31, 1923..	46,821.30
December 31, 1924..	62,116.65
December 31, 1925..	87,196.60
December 31, 1926..	114,451.27
December 31, 1927..	158,396.88
December 31, 1928..	182,131.92
December 31, 1929..	205,588.06
December 31, 1930..	209,262.14
First 8 months 1931..	192,518.56

During the year the Finance Committee and the Board of Directors after thorough and careful study have made a few additional changes in our investments which, we believe, has added to the soundness and diversification of our holdings. The Society's investments are all in very high grade securities and are distributed as follows:

Government Bonds	24.2%
Public Utilities	30.5%
Railroads	15.2%
Industrials	30.1%

Metal Progress is now just one year old. It has been received by the membership and subscribers during the past year and approved as a publication of unusual merit and attractiveness. The

PRESIDENT'S ANNUAL REPORT

(Continued from Page One)

gratitude to him for the helpful assistance and wise counsel he has given me in my four years of activity on the Board.

Since the report presented to the membership last year, the Board of Directors have met seven times as follows:

Sunday, September 21, 1930
Thursday, September 25, 1930
Sunday, February 15, 1931
Tuesday, February 17, 1931
Wednesday, February 18, 1931
Thursday, May 14, 1931
Tuesday, September 22, 1931.

At all but one of these meetings, we have had 100% attendance, truly a remarkable record and one that shows the intense interest the members of the board have in the Society. May I go into details regarding the February meetings. The first one on February 15th started at 8 P. M. and we were hard at work until 1 A. M. The Tuesday meeting started at 1:30 P. M. and closed at 7:30 P. M. and the Thursday session started at 2 P. M., adjourning at 5 P. M. Truly, when you elect men who will devote as much time and thought to the affairs of the Society as the present Board, you have done well. My thanks go to each and every member for the loyal support they have given me this year.

The detailed reports of all the meetings have been published in *THE REVIEW* so that the membership may know how the affairs of the Society are being handled. I regret that these reports are not more carefully studied than they seem to be, especially by the chapter executive committees.

The Society now has four official publications, *THE REVIEW*, *National Metals Handbook*, *Transactions*, and *Metal Progress*. These publications are such that the Board feels all classes of membership are being amply supplied with information to suit their needs.

Last year, *Transactions* was published as a bound volume, the members being asked to pay the cost of binding as they had always done in order to obtain the material in book form. Beginning November 15th of this year, *Transactions* will again appear as a monthly publication and the members will have the privilege of returning their copies for binding as in previous years. This magazine will contain the technical papers presented at the annual convention together with the discussion and such other scientific and technical papers as the Publication Committee may deem of sufficient merit for permanent record.

May I remind you here, the preprints of most of the convention papers may be obtained by writing to the Headquarters of the Society.

THE REVIEW carries to the members the current news of the activities of the chapters of the Society, quarterly financial reports of the National Treasurer, minutes of the Board meetings as stated above and has imparted to the membership more information regarding local and national doings than was possible in previous years.

The *National Metals Handbook* has taken an established and honorable place in the offices and libraries of the members and is constantly being used to a greater extent as its contents and value are more appreciated by the membership. There will be no new edition in 1931 but revisions and additions to the supply of information are constantly being made so that when the next volume is published, it will be authentic and up to the minute.

I wish to congratulate the members of the society on their new monthly magazine, *Metal Progress*. Since the first it has maintained such a high standard of excellence that it immediately set the pace for other technical publications—thus again carrying forward the American Society for Steel Treating tradition of leadership.

For several years the Board had recognized the fact that an increasing number of executives and production superintendents were joining the society—men who were making metal or using metal. They do not spend all their time on metallurgical problems; metal, however, like labor and money, is one of their principal raw materials. Without being expert in the heat treater's lore, or skilled as melter, mill man, or metallographist, they nevertheless have a healthy interest in new developments in this raw material or in methods of processing, heat treating, or finishing it. They joined the society because they felt they could there learn quickest of the things about metal they could use with profit in their daily tasks.

A recent analysis showed that three out of every four members could be characterized as above. Obviously, *Transactions*, being pre-eminently a scientific and technical publication, was not well adapted to their needs. After careful and lengthy consideration of the facts, *Metal Progress* was established.

Twelve issues have indicated that our expectations have been fulfilled. Its editorial scope is clearly defined by its name. Manufacture, heat treatment, properties of metals, their application, fabrication, welding, finishing—all receive attention. Not only iron and steel,

but aluminum, copper, and their alloys are considered. Accounts of interesting by-products of metallurgical activity, or historical notes, are also included, thus rounding out the issues so that every member can always find something of interest and profit in each issue.

Its editorial policy, of printing only manuscripts which are prepared exclusively for its pages, and of arranging type and illustration of each pair of facing pages with an eye to artistic balance appropriate to the subject matter, is in keeping with that advance which in 30 years has revolutionized the art of advertising, but which, strangely enough, has not been accompanied by a corresponding betterment in the reading pages. Many have been the letters received from readers, publishers, advertisers, and workers in the graphic arts, hailing *Metal Progress* as ushering in a new era in technical publishing.

I bespeak the continuous and hearty assistance which the editor has received from you in the past, and without which he will be unable to maintain the high standard of material which has already been published, and which is only matched by the excellence of the illustrations and the beauty of the reading pages. It is your magazine. You can well be proud of it, for there is no better. With your active help it can always be far out in front, a leader in all respects.

There have been three group or sectional meetings this year. The first was held at Columbus, Ohio, March 10th. Unfortunately, the weather was very bad and the attendance was not as large as it otherwise would have been. The chapters co-operating were Columbus, Dayton, and Cincinnati. The address in the evening was given by Mr. Bradley Stoughton who related his experiences in the steel mills of Central Europe.

The second sectional meeting was held at Hartford, Connecticut, this chapter being host to the five other New England chapters, Boston, Worcester, Springfield, Rhode Island, and New Haven. It was very largely attended. The dinner address was given by our Past President—Dr. Zay Jeffries.

The third meeting of this kind was attended by members of Philadelphia, Lehigh Valley, York, New Jersey, and New York. It was very well attended and at the dinner, Mr. Gabriel Heater gave an inspiring address "The Road Back."

It seems to me that meetings of this kind are of great value, not only to the chapters themselves but to the Society itself and I strongly urge that the above groups continue their activities along these lines and that other chapters conveniently located consider very seriously the inauguration of such gatherings. The officers of the entertaining chapters are to be congratulated for the able manner in which the above meetings were handled.

The Secretary has given you the details of the Western Metal Congress which was held in San Francisco and I will not reiterate what he has said. In 1929, at Los Angeles, there were twelve societies which co-operated with the American Society for Steel Treating in preparing the technical program. Dr. Jeffries, in his annual report, hailed this as the outstanding example of co-operation among technical societies. I am happy to say that at San Francisco, we had the assistance of the same societies. Our thanks are due these organizations for their assistance in making the Western Metal Congress of 1931, the outstanding success that it was.

The present meeting now being held in Boston continues the close relationships that have existed between the American Society for Steel Treating and the following societies: American Welding Society, Iron and Steel Division, A.I.M. and M.E., Institute of Metals, A.I.M. and M.E., American Society of Mechanical Engineers. In addition to these the Iron and Steel Division of the Society of Automotive Engineers is sponsoring a technical session.

We are happy indeed to have the officers and directors of the above societies join with us in making this the outstanding technical meeting of the year.

My thanks go to the officers of all the chapters of the American Society for Steel Treating for the splendid way they have carried on during the past year. Their programs have been excellent and their work worth while.

This will be the only chance I will have to tell you how thoroughly I have appreciated the work of the Members of the Board. I wish I could take each man individually and tell him how much I have relied upon his judgment and advice, how his support has helped me to carry on when the burden was getting heavy, but I can't, so with a collective "Thank you," and with the certain knowledge that the future of the society is assured, I will close.

J. M. WATSON.

MILLS NOW CHIEF ENGINEER OF EMPIRE STEEL CASTINGS

In Alloy Manufacture Since 1921

Charles P. Mills, recently director of the chrome alloy department of the General Alloys Co., has resigned to take the position of chief engineer of Empire Steel Castings, Inc., Reading, Pa.

Mr. Mills is one of the leading authorities on heat and corrosion resisting chrome iron and chrome nickel castings in the country, and was for many years chief engineer of the Duraloy Co., Pittsburgh.

He is a graduate of the engineering department of the University of Pennsylvania, and spent four years in the Panama Canal, after which he was associated with the Fort Pitt Bridge Co. of Pittsburgh as designing and sales engineer.

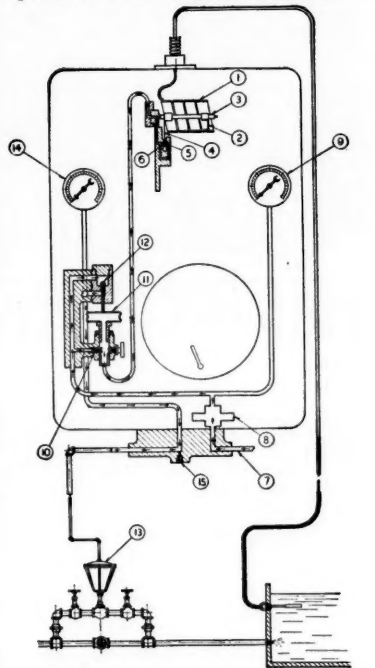
He first became interested in alloys in 1921 and has actively followed this line to the present time.

Bristol Co. Makes A New Controller

The Bristol Co., Waterbury, Conn., is offering a new line of air operated recording controllers, employing a "Free Vane" as the initiator of control, a new departure in air operated control.

The free vane is attached to and actuated by a measuring element of a temperature or pressure recording system and moves between two air jets with stream lines coinciding placed opposite each other. In passing into these air streams, the free vane varies the amount of air which escapes from the jets, thus effecting control.

The arrangement and design of the two jets and the free vane are such that the vane floats between two equal air streams at right angles to its motion, hence the position and movement of the measuring elements are not affected. The recording device is, therefore, free to reproduce the temperature or pressure with complete accuracy.



Referring to the sketch the operation of the Free Vane air operated recording controller is as follows—Air at 15 lbs. pressure is admitted through connection (7) and carried through filter (8), one branch leading to an indicating gauge (9). The other branch turns to the left and supplies air to the control system. This supply branch in turn divides into two branches, one passes through an orifice (10) supplying the elastic element (11) and then through a connecting line to the opposing jets (5) and (6). The other branch supplies air to the pilot valve (12) and through the pilot valve to the indicating gauge (14) and outward to the top of the diaphragm motor valve (13).

The air which enters through orifice (10) is dissipated through jets (5) and (6). The amount which may be dissipated through these jets depends upon the position of the free vane (4). This vane, being directly attached to an elastic element (1) of the hollow helical type, is moved by changes in the temperature at the sensitive bulb shown in the bath at the lower right hand corner. The changing amount of dissipated air at jets (5) and (6) produces a pressure change on the elastic element (11) and a consequent deformation which operates pilot valve (12) admitting more or less air to the top for operating the diaphragm motor valve (13). The elastic element (1) also carries the recording penarm which is attached to the shaft (3).

Patents covering this method of control are applied for and pending. A new Catalog No. 4001, fully illustrating and describing this instrument, is ready for distribution.

Employment Service Bureau

Address answers care of A. S. S. T., 7016 Euclid Ave., Cleveland, unless otherwise stated.

POSITIONS WANTED

CHEMIST-METALLURGIST: Long experience as head of chemical and metallurgical laboratories of steel and non-ferrous plants. Since 1916 in charge of laboratories of well-known forging company. References. Address 10-5.

MATERIALS AND METHODS ENGINEER: 12 years experience in machine and

metal manufacturing, covering planning, tooling, purchasing and manufacturing analysis. Location in east. Address 10-10.

GRADUATE of Case School of Applied Science in Metallurgy, 1931. Excellent references and a good scholastic record. Address 10-15.

DIRECTORS' MEETING REPORT

(Continued from Page One)

made of some basic material and gold plated instead of being made of solid gold as at present.

A petition was received from the York group requesting their advancement to a chapter rating, and upon motion by Mr. Eisenman, seconded by Mr. d'Arcambal, and unanimously carried, the petition was granted.

A petition was received from the officers of the Washington-Baltimore chapter and also from 62 individuals located in the Baltimore territory requesting the permission of the board of directors for the separation of the Washington-Baltimore chapter and the establishment of a group of the A.S.S.T. at Baltimore.

Upon motion properly made, seconded, and carried, the petition was granted.

A report was presented from Mr. H. E. Handy, chairman of the Constitution and By-Laws Committee, as follows:

(Printed in full in this issue.) In addition to the report of the Committee submitted by Mr. Handy, a minority report was submitted by Mr. Tour and Mr. Mathews providing for seven or more elected directors in place of the six elected directors as provided for in the majority report.

Upon motion by Mr. Fulton, seconded by Mr. Guthrie and unanimously carried, it was decided after careful consideration that the minority report should be temporarily laid on the table.

A general discussion then followed with reference to the proposed constitutional revision as submitted by the committee in the majority report.

Upon motion properly made, seconded, and unanimously carried, the majority recommendation of the Constitution and By-Laws Committee as submitted by Chairman Handy received the tentative approval of the board and the secretary was instructed to publish this report in THE REVIEW for the information of the entire membership and that a copy of the report should be forwarded to the executive committees of the chapters and they should be requested to consider these proposed changes at a meeting of the executive committee and report their approval, criticism or suggested changes in a communication to the national office, not later than December 15, so the board may have an opportunity to consider all of the chapter communication at the meeting in January when final decision will be made with reference to the submission of the proposed changes to the membership.

Upon motion properly made, seconded, and unanimously carried, it was decided that definite announcement with reference to the location of the 1932 National Metal Congress and Exposition should be deferred until after the January meeting.

Upon motion by Mr. d'Arcambal, seconded by Mr. Guthrie, and unanimously carried, the meeting adjourned.

AGENCY AGREEMENT
WITH GREAT BANKSee Director's Minutes For
Complete Information

THIS MEMORANDUM OF AGREEMENT is to evidence that the AMERICAN SOCIETY FOR STEEL TREATING, a corporation duly incorporated under the laws of the State of Ohio, by its Treasurer thereunto duly authorized, and by its Board of Directors, as Principal, has deposited with THE CLEVELAND TRUST COMPANY, of Cleveland, Ohio, as Agent, the property described in Schedule "A", which is hereto attached and made part hereof, which, with any property that may be hereafter added thereto or substituted therefor, shall be dealt with by said Agent as hereinafter provided, and in consideration of the undertakings of the parties hereto, it is agreed as follows:

SAID AGENT IS AUTHORIZED:

1. To take title to and custody of said property; to collect the income derived therefrom.

2. To suggest the investment and reinvestment of money coming into its possession in such loans, stocks, securities or real estate as it may deem proper and suitable, and likewise to suggest the sale, transfer or exchange of any property held by it hereunder, and upon the written direction of said Treasurer to execute any such transaction for and on behalf of the Principal.

3. To make advances or borrow money upon such terms and conditions, and at such time or times as to it may seem desirable or proper for the protection or preservation of the property held hereunder upon obtaining the written direction of said Treasurer thereto. For the repayment of such advances, with interest, the Agent shall have a lien

upon the property so held by it hereunder and for sums so borrowed may issue its promissory notes as Agent, and secure the repayment thereof by mortgaging or pledging any part or all of the property held by it hereunder.

RELATIONS TO THIRD

PARTIES:

1. Desiring that the negotiability of the property held hereunder be not impaired, it is agreed that no person, firm or corporation dealing with the Agent shall be required to ascertain whether the approval or direction of said Treasurer has been obtained to any transactions effected by the Agent, and every person, firm or corporation dealing with the Agent shall be protected in relying solely upon the deed, conveyance or assurance of the Agent in the premises.

THE AGENT SHALL BE EN-

TITLED:

1. In event of the termination of this agreement, at its option to purchase any notes secured by mortgage or participations in mortgage loans or participations in fees subject to long-term leases representing investments made upon recommendation of the Agent for the amount of principal and accrued interest or rent to date of purchase.

2. To deduct for its services hereunder five per cent. (5%) of the income earned by the property in its custody per year, and in addition thereto, any additional expenses or costs which it shall have incurred with the approval of the said Treasurer.

THE AGENT SHALL:

1. Allow and pay interest on uninvested funds at the rate and in accordance with the rules then governing deposits in its Savings Department.

2. Render to said Treasurer quarterly statements of its receipts, disbursements, and dealings with said property.

3. Dispose of the net income collected by it, subject to the written order of said Treasurer.

4. Pay over and deliver any part or all of the property held by it hereunder to the Principal or its order, upon the written request of said Treasurer therefor, and upon being repaid any advances made by it, and upon being indemnified against any liabilities incurred by it under this agreement.

5. The Treasurer of the Principal is hereby authorized and empowered to make any additions and/or withdrawals, and/or to authorize any sales or investments hereunder; provided, however, that any such action shall be with the approval of the President of the Principal. The President of the Principal at the time of the execution of this agreement is J. M. Watson, and the Treasurer of the Principal, at the time of the execution of this agreement is A. Oram Fulton. The Agent shall be protected in relying upon any changes in the officers of the Principal, as certified to it by the then President and Secretary of the Principal.

This agreement may be terminated by either party upon thirty (30) days' written notice to the other, or sooner by mutual consent.

IT WITNESS WHEREOF, the Board of Directors of the AMERICAN SOCIETY FOR STEEL TREATING, by J. M. Watson, President, and A. Oram Fulton, Treasurer, duly authorized by the said Board, and THE CLEVELAND TRUST COMPANY, by its proper officers thereunto duly authorized, have hereunto set their respective corporate names and seals at Cleveland, Ohio, the 22nd day of September, 1931.

Signed in the presence of:

Robert G. Guthrie

W. B. Coleman

AMERICAN SOCIETY FOR STEEL TREATING

By J. M. Watson, President

And A. Oram Fulton, Treasurer

THE CLEVELAND TRUST COMPANY

By A. A. McCaslin, Vice President

And E. W. Senghas, Asst. Trust Officer

NORTHWEST INAUGURATES YEAR
WITH LECTURE ON COMBUSTION

H. A. Anderson Addresses Chapter

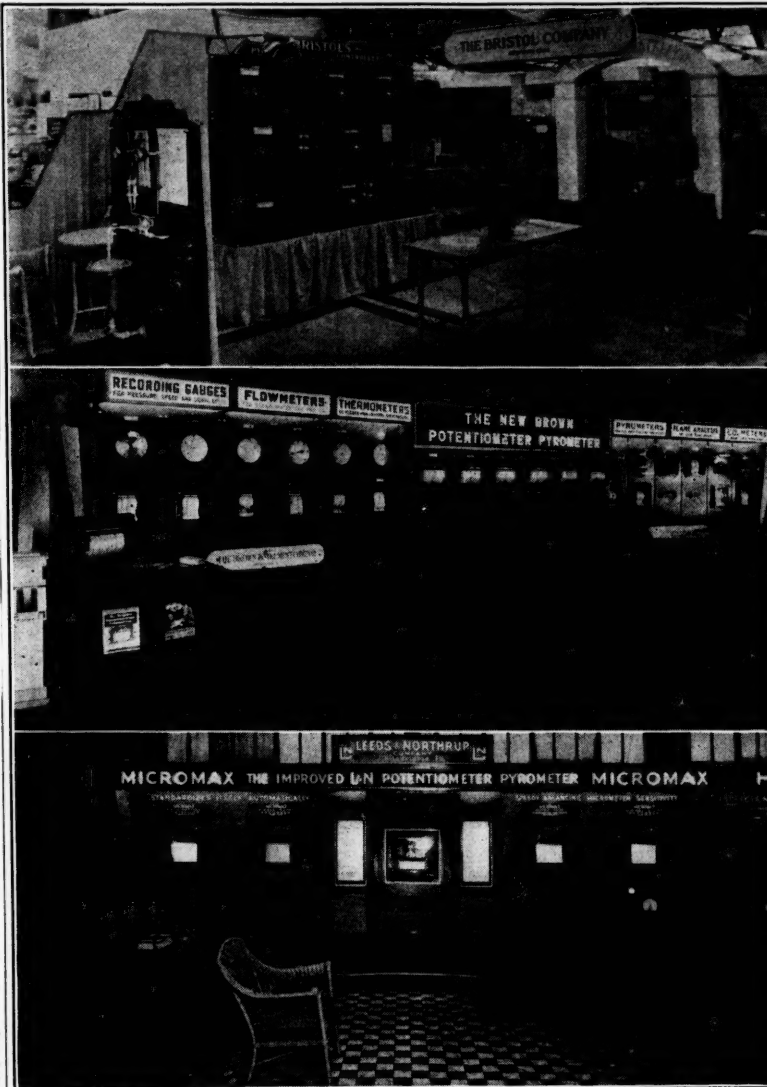
By Arthur C. Forsyth

The Northwest chapter opened the present season with a talk on "Combustion." H. A. Anderson of the Johnston Manufacturing Co. of Minneapolis was the speaker. In the presentation of the very wide field of combustion and oil burning furnaces Mr. Anderson confined his lecture primarily to liquid fuels and their commercial application.

The speaker first outlined the different varieties of liquid fuels, giving the methods for burning each. While doing this he mentioned many difficulties that occur.

A number of slides were shown to illustrate atomization and mixing of air, the effect of corrosion from the super-heated steam formed during combustion, the effect of velocity on corrosion, installations, controls, etc.

Seen at the Recent Metal Exposition

AIRCRAFT TOPIC AT
N. JERSEY MEETINGTwo Chapter Members Speak;
Meetings to be in Newark

By Joseph Sammon

The opening meeting of the 1931-32 season of the New Jersey chapter was held Sept. 14 in the beautiful Washington Ball Room in Newark, where all this season's meetings will be held.

Even though the night was extremely warm, there was an attendance of 106, and this was due to the popularity of Dr. W. R. Fraser, one of our chapter members, who gave us a talk on "Airplane Engine Starters."

Dr. Fraser induced David Gregg, also a chapter member, to give us a talk on the possibilities of greater speed with airplanes.

Mr. Gregg who is a co-worker with Dr. Fraser at the Eclipse Aviation Corp., East Orange, N. J., explained how it is possible to increase the speed of an airplane motor almost double without increasing the horsepower. He explained that, for instance, to increase the speed of an automobile, speed boat or ocean liner, it is necessary to increase the horsepower many times in proportion to a slight increase in speed.

Dr. Fraser gave the history of airplane starters from the beginning up to the present time, and also had finished starters on display to help illustrate his talk.

He explained in detail the materials used, the rigid specifications, the care and inspection of every step in the manufacture, and finally the test to which each starter is subjected before shipment.

E. C. BAIN HONOR LECTURER

Will Deliver 1932 Campbell Memorial
Lecture Before the Society Members

Announcement has been made that the 1932 Edward de Mille Campbell Memorial Lecture will be presented by Dr. E. C. Bain of the United States Steel Corp. research laboratory. This lecture will be delivered at the fourteenth annual National Metal Congress next September.

Dr. Bain is well known in the field of metallurgy. He is co-author of the paper which won the 1931 Howe Memorial Medal and has appeared on many National Metal Congress programs and as speaker before several chapter meetings.

HIGH SPEED STEEL
NEW HAVEN TOPICD. A. Nemser Speaker at First
Meeting of New Season

By W. H. Richards

New Haven chapter's first meeting of the season was held on Sept. 17, and was preceded by a well attended dinner at Wilson's Grill after which the members adjourned to the Hammond Laboratory at Yale University for the business session.

In the absence of Chairman Fred Dawless, the meeting was opened by Vice-Chairman Walter Aurand who was instrumental in securing from the du Pont de Nemours Co. a very interesting film "Building New York's Newest Subway." After the film, Mr. Aurand appointed Henry Keshian technical chairman, after which he introduced the speaker of the evening, D. A. Nemser, chief metallurgist of the Pratt & Whitney Co. whose subject was high speed steel.

Mr. Nemser covered his subject very thoroughly, explaining the hardening equipment and practice in use at Pratt & Whitney and going on to the physical elements of high speed steel, their effect, and the reasons for their presence. He laid particular stress on heat treatment. He had on hand a great deal of the most recent data showing the need of carefully planned and controlled treatments necessary to develop the maximum efficiency in high speed tools. His data on carbide segregations in various sized bars and his inspection practice in regard to this condition was also very interesting and several slides were shown illustrating various types of this condition.

The talk was followed by a general question period led by the technical chairman and several specimens of steel and tools were examined.

It rarely happens that our chapter is privileged to hear such a thoroughly prepared paper on a subject which is of such universal interest and we hope that we may have Mr. Nemser again in New Haven in the near future.

BOSTON ANNUAL BANQUET WAS
A PRE-CONVENTION OCCASION

More Than 100 Members Present

By Howard E. Handy

The 12th annual banquet of the Boston chapter, in the form of a pre-convention smoker, was held at the University Club, Boston, Sept. 10, more than one hundred being present.

Bill Eisenman, national secretary of the A.S.S.T., honor guest at dinner, gave a short talk on the plans for the National Metal Congress in Boston. His remarks were followed by a report of the membership committee by Walter Kunkel and a summary of what the program committee has planned for the coming season by E. L. Bartholomew.

The guest speaker of the evening was Dr. John L. Davis of New York, a nationally known humorist and philosopher, who gave a most interesting address on "The Dimensions of Life." Dr. Davis kept his audience in an uproar, leaving with them, however, an inspiring and lasting impression.

A. D. Bach, chairman of the Boston chapter, acted as toastmaster and the arrangements were under the general direction of E. L. Bartholomew, assisted by Ed. Ashworth, Earl Downing, Dr. Walsted and Dr. Lester.

TWO TALKS ON TOOLS FEATURE
OPENING MEETING AT CHICAGO

T. E. Barker and C. B. Sadtler Talk

By Harry Hardwicke

Chicago chapter held its first meeting of the 1931-32 year Sept. 10, at the City Club of Chicago. There was the usual good attendance.

We were fortunate to have two speakers on our program. First T. E. Barker, president of the Accurate Steel Treating Co., Chicago, whose subject was Tool Treatment and Tool Design—Their Correlation. His talk was of special interest to the tool designer and also to those who heat treat tools. Slides illustrated the principles of tool design, as relating to warpage, cracking and service life.

Then C. B. Sadtler, metallurgist, Barber Colman Co., Rockford, Ill., talked on the heat treatment of high speed steel tools. Mr. Sadtler recited briefly the care they take in the selection and inspection of their high speed steel requirements, and of their close co-operation with the mill that serves them. He then described the manufacture and treatment of high speed tools and illustrated certain points by referring to a display of hobs, cutters and special tools.

For Sale: Leitz Micro-Metallograph

We have available at a very attractive price, a slightly used Leitz Micro-Metallograph of recent design, complete with all accessories, guaranteed to be in perfect working condition. Address 4-10.

SALES REPRESENTATIVES

Wanted by conservative firm manufacturing full line of carburizing and metallurgical materials. Only men who have wide acquaintance and following considered. Commissions only. Please state territory covered and record. Address 2-10.

Proposed Changes in Constitution and By-Laws OF THE American Society for Steel Treating

PRESENT CONSTITUTION

The purpose of the following changes is to increase the Board of Directors from five to seven directors, in addition to the four officers of the Society.

ARTICLE X

BOARD OF DIRECTORS Officers of the Society

Section 1. The affairs of the Society shall be managed by a Board of Directors chosen from the members, which shall consist of

The President of the Society,
The Vice President,
The Secretary,
The Treasurer,
and five Directors.

On completion of his term of office as President, the President shall thereupon become one of such five Directors for a period of one year.

Quorum of the Board

Section 2. Five members of the Board of Directors shall constitute a quorum.

The purpose of the following changes is to provide a different method of nominating officers and directors of the Society.

ARTICLE XI

OFFICERS OF THE NATIONAL SOCIETY AND THEIR DUTIES

Officers of the Society

Section 1. The officers of the Society shall be a President, a Vice President, a Secretary, a Treasurer, and five Directors, as provided for in Article X, Sec. 1.

Term of Office

Section 2. The term of office of each of the officers above mentioned shall begin on January 1 next succeeding their election. The term of office of the President shall be for one year and at the completion of such term he shall become a Director for a further period of one year. The term of office of the Vice President shall be for one year. The term of office of the remaining officers and directors specified shall be for two years each.

At the first election of officers in December, 1927, under this amended constitution, and in each alternate year thereafter, there shall be elected, as provided herein, a President, a Vice President, a Treasurer, and two Directors; and at the next succeeding election, and in each alternate year thereafter, there shall likewise be elected a President, a Vice President, a Secretary and two Directors.

Eligibility for Immediate Re-Election

Section 3. None of the officers except the Secretary or Treasurer shall be eligible for immediate re-election to the same office at the expiration of his term.

Nomination and Election of Officers and Directors

Section 4. (a) Nominations. Officers and Directors shall be nominated in the following manner: Each chapter shall on or before the first day of the annual convention designate by its membership or through its executive committee, as each chapter shall see fit, a representative or an alternate, on the National Nominating Committee. The persons so designated shall meet at 10:00 A. M. on the first day of the annual convention, and organize by electing a chairman and secretary. If a person designated by a local chapter is unable to serve, the alternate shall serve in his place, and if the alternate be not able to serve he may issue a proxy to another member of his own chapter, who may, upon the filing of such proxy with the Nominating Committee, be entitled to represent the chapter on such committee. Before any person shall be entitled to act as a member of such nominating committee there shall be presented to the meeting a certificate in such form as the National Board of Directors shall determine, stating that the person designated, or the alternate, as the case may be, is entitled to represent such chapter on the nominating committee. In case of a vote by proxy, both the necessary certificate and proxy shall be filed. At all meetings of the Nominating Committee, representatives or their alternates, or the agents designated in proxies, present in person and representing altogether a majority of the chapters of the Society, shall constitute a quorum. The nominating committee as above organized shall proceed to the nomination, by a majority vote of those present and entitled to serve, of the necessary officers and directors to be chosen at the next succeeding annual election. Such nominating committee may appoint from its members a sub-committee to carry on its work, and may give such sub-committee any or all powers possessed by the general committee. If the general committee shall not have completed its work by the end of the second day of the annual convention, it must appoint such sub-committee and empower it to complete the work of the general committee.

The Nominating Committee or its sub-committee must, on or before the 25th of October, file with the National Secretary, its nominations of qualified members for elective officers, to be voted on by letter ballot as hereinafter provided. It shall be the duty of such committee to secure and file with its nominations the written consent to serve of each person named by the committee.

(b) On or before the first day of November next succeeding the filing of the nominations as above provided, the Secretary shall send a complete copy of the nominations by mail to all members of the Society at their last known addresses as they appear on the records of the Society.

(c) Any time prior to the 25th day of November next succeeding, any fifty members of the Society qualified to vote for elective officers thereof, may make a nomination for any elective office by filing same with the National Secretary on or before that date. Such special nomination shall be in writing and shall be signed by the required number of members making the nomination, and there shall likewise be filed, prior to that date, the written consent to serve of the person named in the special nomination.

(d) If no other candidates for officers or directors be nominated as provided in subdivision (c), then the National Secretary shall notify the tellers, who shall certify the election of the candidates nominated pursuant to Section 4 (a) of this Article, for the terms of office for which they were nominated.

(e) If candidates are nominated as provided in Section 4 (c) of this Article, then, on or before December 1 next succeeding, the Secretary shall mail to each member entitled to vote for officers and directors a ballot in such form as the Board of Directors shall determine, stating the names of the candidates for the various offices to be voted upon, as nominated by the regular nominating committee, together with any special nominations regularly made. Such ballots shall also provide a space in which the person voting may write the name of any member for whom he desires to vote. Each voter shall suitably mark or otherwise write on his ballot so as clearly to indicate his choice for the various offices, and shall return his ballot in a sealed envelope to the office of the National Secretary. Such envelope shall be marked on the outside "Ballot for Officers" and shall be contained in another envelope on which shall be provided a space for the signature of the voter. Voting for officers shall close at 10:00 in the forenoon of December 20 of each year, unless that date shall fall on a Sunday or a day which is a legal holiday in the state of Ohio. In either of the latter events voting shall close at 10:00 o'clock in the forenoon of the next succeeding day which is not a Sunday or holiday. The sealed letter ballot shall be opened by the Tellers of Election only, and shall be canvassed by them, and the result shall be certified by such tellers in writing immediately upon completion of the count. Such certification shall be forthwith filed with the National Secretary. In the absence of fraud or mistake, the officers certified by the tellers to have received a plurality of the votes cast shall be the duly elected officers of the Society and their term of office shall begin the first day of January next succeeding their election.

PROPOSED CHANGES

ARTICLE X

BOARD OF DIRECTORS Officers of the Society

Section 1. The affairs of the Society shall be managed by a Board of Directors chosen from the members which shall consist of

The President of the Society
The Vice President
The Secretary
The Treasurer
and Seven Directors

On completion of his term of office as President, the President shall thereupon become one of such seven directors for a period of one year.

Quorum of the Board

Section 2. Seven members of the Board of Directors shall constitute a quorum.

ARTICLE XI

OFFICERS OF THE NATIONAL SOCIETY AND THEIR DUTIES

Officers of the Society

Section 1. The officers of the Society shall be a President, a Vice President, a Secretary, a Treasurer, and seven Directors, as provided for in Article X, Section 1.

Term of Office

Section 2. First Paragraph—O. K. as is.
Second Paragraph—Change to read as follows: At the first election of officers in December, 1932, under this amended constitution, there shall be elected, as provided herein, a President, a Vice President, a Secretary and four Directors, one of whom shall serve for a period of one year, and at the next succeeding election, and each alternate year thereafter there shall likewise be elected a President, a Vice President, a Treasurer, and three Directors.

Eligibility for Immediate Re-Election

Section 3. None of the officers except the Secretary or Treasurer shall be eligible for immediate re-election to the same office at the expiration of his term.

No two members of the Board of Directors other than officers of the Society shall represent a single chapter. Except for officers and past presidents, no individual chapter shall be continuously represented on the Board for more than two years. The President, Vice President and Treasurer of the Society shall be chosen from those members of the Society who at some time have been members of the Board of Directors for at least two consecutive years. Equivalent service on the Finance Committee may be considered as qualification for the office of Treasurer.

Nomination and Election of Officers and Directors

Section 4. (a) Nominations. Officers and directors shall be nominated in the following manner. The chapters of the society shall be classified into not less than seven geographical districts as defined in the by-laws.

The Board of Directors shall each year review the existing Chapter Districts and if necessary make changes in them so as to equalize them insofar as possible from the standpoint of total membership, mutuality of interests and facilities of travel between points within each district. The Board of Directors shall also designate the district to which any newly formed Chapters may belong, and have the power to create new districts when it is judged advisable.

Each Chapter shall on or before the first day of the Annual Convention designate by its membership or through its Executive Committee, as each Chapter desires, a representative and an alternate from its membership to attend district meetings for the selection of a National Nominating Committee. The person or persons so designated shall meet at 11:00 a. m. on the first day of the annual convention in separate groups according to the district classifications as shown in the by-laws and proceed as they see fit to select for their district a member and an alternate for the National Nominating Committee. Only the members of this National Nominating Committee, or their alternates, shall assemble at 10:00 a. m. on the second day of the annual convention and following organization through the selection of a chairman and secretary, proceed to the nomination by a majority vote of those present of the necessary officers and directors to be chosen at the next succeeding annual election. The Chairman of the outgoing National Nominating Committee shall serve as an advisory member, without vote, of this Nominating Committee, and the Secretary of the outgoing Committee shall serve as alternate for him.

The members and alternates of the National Nominating Committee shall be elected for one (1) year and no member or alternate shall be eligible for more than two terms. Serving as an alternate shall not affect the eligibility of a member to serve on the Committee as a delegate for two (2) terms if elected.

This National Nominating Committee must complete its work, on or before the 25th of October, and file with the National Secretary its nominations of qualified members for elective officers to be voted upon by letter ballot as hereafter provided. It shall be the duty of such a Committee to secure and file with its nominations the written consent to serve of each person named by the Committee.

It is desirable that insofar as practicable in the selection of officers and directors, the nominations be such that at least one director or officer outside of the National Secretary, shall be chosen from each district annually. Such an officer or director shall be the direct representative on the National Board of Directors for that group.

Section 4, paragraphs

- (b) O. K. as is
- (c) O. K. as is
- (d) O. K. as is
- (e) O. K. as is

GOLF TOURNEY AND OUTING OCCUPY CHICAGO'S SUMMER

E. W. Page is Chapter Champion

By Harry Hardwicke

The annual outing of Chicago chapter was held at Lincoln Tavern, June 13, with about 200 playboys in attendance. We were all assembled in the big dining room singing when the chicken dinner started. The entertainment was so well received that there were no signs of "ole man repression." Later the scene of action shifted to a canvas mat in the center of the room, where the boxers and wrestlers mixed it up. That last wrestling bout was a corker and had everyone on their toes.

The Second Annual Championship Handicap Golf Tournament was run off at Cog Hill Country Club August 1. The first prize, a mammoth cup put up by Chicago chapter to be won three times for permanent possession, went to E. W. Page of the General Electric X-Ray Corp., who went around in 81. A. S. Jameson of the International Harvester Co., last year's cup winner, was second with 82. Of the guests, Ralph Smith won a silver platter with a low gross of 81, and R. E. McCausland of Rockford was second with 85. Low net in Class A was won by F. G. Wheeler (past chairman), Class B won by R. B. Harper, and Class C won by C. Mathie.

The Low Gross Foursome prize went to C. A. Peck and R. E. McCausland (both from Rockford), and P. E. Floyd and R. E. Surtees. The Blind Bogey first prize went to A. N. Steelhammer.

In the driving contest H. P. Troendly smacked the little ball no less than 298 yards down the middle of the lane and went home with a new leather bag.

INDIANAPOLIS OPENS SEASON

Chapter to Sponsor Metal Course

By A. E. Focke

The Indianapolis chapter opened the season with a dinner meeting at the Hotel Severin. At the meeting, it was announced that the chapter would sponsor a course in metallurgy to be offered by H. J. Green, chief chemist, Diamond Chain & Mfg. Co. The course will consist of a series of 15 lectures and demonstrations to be offered at Arsenal Technical High School.

The main talk was delivered by Wm. G. Praed, radiographic engineer, for the Claud S. Gordon Co., Chicago. Mr. Praed spoke of the progress in industry through X-rays. He used a motion picture to show how X-ray tubes are made and how the X-rays are produced. He included among other interesting subjects the development of the Laue pin hole method to show residual strains in the weld and surrounding material.

WORCESTER OFFICERS NAMED

On May 14, the last meeting of the year was held at Sanford Riley Hall at Worcester Polytechnic Institute. A special dinner was served to over 60 members and guests. Music and cigars were furnished by the chapter.

After the dinner, Mr. Hague announced the election of officers for the new years as follows:

M. A. Frommann, chairman.
R. C. Jordan, Vice chairman.
Theodore Packard, secretary and treasurer.

The speaker of the evening was Prof. Charles Allen of the Worcester Polytechnic Institute, who demonstrated how to use and how not to use gasoline. His talk was very interesting.

In line with proposed amendments for changing the method of nominating the Board of Directors, the Constitution and By-Laws Committee recommends to the Board of Directors one of the following two groupings of chapters as the basis of the by-law required in the proposed amendments.

PROPOSED CHANGE IN BY-LAWS

Figures based on chapters' standing October 1, 1931.

SUGGESTED CLASSIFICATION No. 1

1.		3.			
Boston	269	Pittsburgh	437		
Hartford	141	Washington	86		
Worcester	84	Southern Tier	41		
Rhode Island	72	Lehigh Valley	144		
Springfield	53				
	619		708		
2.		4.			
New York	337	Syracuse	77		
New Jersey	291	Rochester	74		
New Haven	102	Buffalo	114		
Philadelphia	335	Schenectady	67		
		Ontario	117		
		Montreal	115		
	1,065		564		
5.		6.		7.	
Cleveland	358	Cincinnati	99	Chicago	521
Detroit	426	Indianapolis	72	Milwaukee	121
Dayton	58	Los Angeles	190	North-West	60
Columbus	58	Golden Gate	154	Tri-City	104
Canton-Mass.	96	St. Louis	77	Rockford	49
	996		592		855

SUGGESTED CLASSIFICATION No. 2

SUGGESTED CLASSIFICATION NO. 1			
1.		3.	
Boston	269	Pittsburgh	437
Hartford	141	Lehigh Valley	144
New Haven	102	Canton-Mass.	96
Worcester	84	Dayton	58
Rhode Island	72	Columbus	58
Springfield	53		
	721		793
2.		4.	
New York	337		
New Jersey	291	Cleveland	358
Philadelphia	335	Detroit	426
Washington	86	Buffalo	117
	1,049		898
5.		6.	
Chicago	521	Milwaukee	121
Tri-City	104	St. Louis	77
Rockford	49	North-West	60
Indianapolis	72	Los Angeles	190
Cincinnati	99	Golden Gate	154
	845		602
		7.	
		Rochester	77
		Syracuse	4
		Southern Tier	4
		Schenectady	6
		Ontario	11
		Montreal	11
			49

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